WHAT IS CLAIMED IS:

1. A friction stir welding method, comprising:

in one end of a first member, providing respectively a recessed portion, in a thickness direction, to an outer face at one side of said first member and to an outer face at another side of said first member, opposite said one side and providing a third member extending from said recessed portion at said one side to said recessed portion at said other side,

overlapping one end of a second member to the respective recessed portions of the outer faces at said one side and at said another side of said first members, thereby providing an overlapped portion, and

under a condition where said first member and said second member at said overlapped portion are supported, carrying out a friction stir welding at said overlapped portion by inserting a rotary tool at said overlapped portion from an outer side of the first member, said rotary tool being inserted so as to overlie a central portion of a width of the third member.

2. A friction stir welding method according to claim 1, wherein the friction stir welding is carried out under a condition where an end portion of said second member at an outer side of said overlapped portion and said first member in a vicinity of said overlapped portion, are supported.

3. A friction stir welding method according to claim 2, wherein the friction stir welding is carried out under a condition where said end portion of

said second member in said outer side of said overlapped portion and said first member in said vicinity of said overlapped portion are mounted on a bed, the friction stir welding being carried out from an upper portion of said overlapped portion.

4. A friction stir welding method according to claim 3, wherein after friction stir welding has been carried out at said overlapped portion from the upper portion, re-mounting said first member and said second member on said bed by turning over said first member and said second member, and

thereafter again carrying out friction stir welding at said overlapped portion using said rotary tool from an upper portion at the end portion of the outer side of said second member in said overlapped portion.

5. A friction stir welding method according to claim 2, wherein:

said overlapped portion includes a first overlapped portion at the one side of the first member and a second overlapped portion at the another side of the first member,

said rotary tool is arranged at an outer side of said first overlapped portion and another rotary tool is arranged at an outer side of said second overlapped portion,

under a condition where said another rotary tool is arranged in an extension direction of a rotation center of said rotary tool, the friction stir welding by said rotary tool and said another rotary tool is performed at the same time.

6. A friction stir welding method according to claim 1, wherein:

a part of the end portion of said second member overlaps said respective portions,

another part of the end portion of said second member abuts said first member, providing two abutted portions, and

carrying out the friction stir welding to said abutted portions.

7. A friction stir welding method according to claim 6, wherein the friction stir welding is carried out to a depth of said first member between said two recessed portions.

8. A friction stir welding method, comprising:

preparing a first member having a first plate, a second plate substantially in parallel to said first plate, and a third plate connecting an end portion of said first plate and said second plate and being substantially orthogonal to said first plate,

providing a recessed portion of a connection portion between said third plate and said first plate,

opening said recessed portion directed toward an outer side in a thickness direction of said first member and toward one end side of said first member,

overlapping an end portion of a second member to said recessed portion, to provide an overlapped portion, and

under a condition where a connection portion of said second plate and said third plate is supported, carrying out a friction stir welding at said

overlapped portion using a rotary tool located at an outer side of an end side of said second member, wherein while carrying out the friction stir welding the rotary tool overlies a central portion of a width of the third member.

9. A friction stir welding method according to claim 8, wherein:

said overlapped portion is in a range of an extension line in a thickness of said third plate, and

the friction stir welding is carried out to said overlapped portion with said rotary tool positioned in said range of said extension line in the thickness of said third plate.

10. A friction stir welding method according to claim 9, wherein the friction stir welding is carried out by positioning a rotation center of said rotary tool in said range of said extension line in the thickness of said third plate.

11. A friction stir welding method according to any one of claims 8, 9 and 10, wherein:

a part of an end portion of said second member overlaps with said recessed portion,

another part of said end portion of said second member is abutted to an end portion of said first plate, to provide an abutted portion, and

carrying out the friction stir welding to said abutted portion.

12. A friction stir welding method according to claim 11, wherein the friction stir welding is carried out to said first member, through said recessed portion.

13. A friction stir welding method, comprising:

preparing a first member having a first plate, a second plate substantially in parallel to said first plate, and a third plate for connecting an end portion of said first plate and said second plate and being substantially orthogonal to said first plate,

providing respectively a recessed portion to a connection portion of said third plate and said first plate and a recessed portion to a connection portion of said third plate and said second plate,

the respective recessed portions having openings directed toward an outer side in a thickness direction of said first member and a side of said one end of said first member,

overlapping an end portion of a second member to said respective recessed portions, forming overlapped portions, and

under a condition where said first member and said second member at one of the overlapped portions is supported, positioning a rotary tool in an extension line in a plate thickness of said third plate and inserting said rotary tool to the other of the overlapped portions from said outer side, and

carrying out a friction stir welding to said overlapped portion.

14. A friction stir welding method according to claim 13, wherein:

after the friction stir welding of said other of the overlapped portions has been carried out, reversing said first member and said second member, and

under a condition where said second member at at least an outer side of said other of the overlapped portions is supported, carrying out the friction stir welding to said one of the overlapped portions using said rotary tool from at least an outer side of an end portion of said second member at said one of the overlapped portions.

15. A friction stir welding method according to claim 13, wherein:

part of the end portion of said second member overlaps said two recessed portions,

another part of the end portion of said second member abuts an end portion of said first member, forming an abutted portion, and

carrying out the friction stir welding to said abutted portion.

16. A friction stir welding method according to claim 15, wherein the friction stir welding is carried out to a depth between said two recessed portions.

17. A friction stir welding method, comprising:

preparing a first member and a second member each having a first plate, a second plate substantially parallel to said first plate, and a third plate for connecting a midway of an end portion of said second plate and said first plate,

providing respectively a recessed portion to a connection portion of said third plate and said first plate of said first member and a recessed portion to a connection portion of said third plate and said second plate of said first member,

opening the respective recessed portions directed toward an outer side in a thickness direction of said respective member and a side of said end portion of said respective member,

overlapping an end portion of said first plate of said second member to one of the recessed portions of said first member, to provide an overlapped portion, and

under a condition where said first plate of said first member and said first plate of said second member are supported, carrying out friction stir welding of said overlapped portion by inserting a rotary tool to said overlapped portion between said recessed portion of said first member and said second plate of said second member from at least an outer side of said first plate of said second member, wherein said rotary tool is inserted so as to overlie a central portion of a width of said third plate of said first member at said overlapped portion.

18. A friction stir welding method according to claim 17, wherein:

after the friction stir welding has been carried out, reversing said first member and said second member, and

under a condition where said second plate of said first member and said second plate of said second member are overlapped, providing a second overlapped portion, carrying out friction stir welding to said second overlapped

portion by inserting said rotary tool from at least an outer side of said first and second members, to said second overlapped portion of said second member and said second plate of said member.

19. A friction stir welding method according to claim 17, wherein the friction stir welding is carried out at the same time from said outer side of said overlapped portion and from said outer side of said second overlapped portion.

20. A friction stir welding method according to claim 17, wherein:

a part of the end portion of said first plate of said second member is overlapped with said recessed portion of said first member,

another part of the end portion of said first plate of said second member is abutted to the end portion of said second plate of said first member,

a part of the end portion of said first plate of said first member is overlapped with said recessed portion of said second member,

a part of the end portion of said first plate of said first member is abutted to an end portion of said second plate of said second member, and

the friction stir welding is carried out to said abutted portions.

21. A friction stir welding method according to claim 20, wherein the friction stir welding is carried out to a depth below said recessed portion.

22. A friction stir welding method according to claim 17, wherein the

respective third plates are orthogonal to the first plates.

23. A structure body, formed by:

carrying out a friction stir welding to two overlapped portions of recessed portions in two corner portions of one end portion of a first member and an end portion of a second member,

the friction stir welding being carried out from a side of an outer face of one side of said second member and a side of another outer face side thereof, and

the friction stir welding being carried out with said first member at an extension line of a center of a width of a bead of respective friction stir welding portions.

24. A structure body according to claim 23, wherein each of said respective friction stir welding is a welding of an abutted portion between said first member and said second member.

25. A structure body according to claim 24, wherein:

said friction stir welding is carried out to a depth below said recessed portions.

26. A structure body, formed by:

carrying out friction stir welding at an overlapped portion of an end portion of a first member and an end portion of a second member,

said first member has a first plate, a second plate substantially parallel to said first plate, and a third plate connecting said end portion of said first plate and said second plate, and

to a connection portion of said first plate and said third plate of the first member, the friction stir welding is carried out.

27. A structure body according to claim 26, wherein:

said third plate is substantially orthogonal to said first plate, and

a center of a width of a bead of the friction stir welding is arranged at a range in a thickness direction of a third plate.

28. A structure body according to claim 26, wherein said friction stir welding is a welding of an abutted portion between said end portion of said first member and said end portion of said second member.

29. A structure body according to claim 27, wherein:

said friction stir welding of said abutted portion is from a side of an outer face of the structure body.

30. A structure body according to claim 28, wherein a bead of the friction stir welding reaches a depth of said first member in a side of said second plate beyond said abutted portion.

31. A structure body according to claim 28, wherein:

said third plate is substantially orthogonal to said first plate, and

a center of a width of a bead of the friction stir welding is arranged at a range in a plate thickness of said third plate.

32. A structure body according to claim 31, wherein said bead is located at an extension line of a center of the thickness of said third plate.

33. A structure body according to claim 31, wherein the width of said bead is larger than said thickness of said third plate.

34. A structure body according to claim 31, wherein said center of the width of said bead is formed to another end side of said first member from a center of the thickness of said third plate.

35. A structure body, comprising:

a first member and a second member each having a first plate, a second plate substantially parallel to said first plate, and a third plate connecting midway of an end portion of said second plate and said first plate,

said end portion of said first plate of said first member is welded at a connection portion of said third plate and said first plate of said second member through one welding bead,

said end portion of said third plate of said second member is welded at a connection portion of said second plate and said third plate of said first member through a second welding bead, and

said respective welding beads are welding beads formed by the friction stir welding.

36. A structure body according to claim 35, wherein:

an abutted portion between an end portion of said first plate of said first member and an end portion of said first plate of said second member is joined by the friction stir welding, and

an abutted portion between an end portion of said second plate of first member and an end portion of said second member is joined by the friction stir welding.

37. A structure body according to claim 36, wherein:

the second welding bead extends through the third plate of the second member and reaches said first member, and

the one welding extends through the first plate of the first member and bead reaches said second member.

38. A structure body according to claim 36, wherein:

said third plate of each of the first and second members is substantially orthogonal to said first plate, and

a center of a width of each of said beads of the friction stir welding is arranged at a range in a plate thickness of said third plate.